Economy Number Sense

Calculate and interpret five economic indicators.

HIGH SCHOOL · MA.912.FL.2.3

MA.912.FL.2.3 "Explain how consumer price index (CPI), gross domestic product (GDP), stock indices, unemployment rate and trade deficit are calculated. Interpret their value in terms of the context."

NAME ______________________ DATE ____________

BUILD THE INDICATOR

Economic indicators combine data into one useful number. CPI = current basket cost / base-year basket cost × 100, unemployment rate = unemployed / labor force × 100, and GDP = consumption + investment + government spending + (exports - imports). In a simplified price-weighted stock index, divide the total stock prices by the number of stocks, and find a trade deficit by subtracting exports from imports when imports are greater.

WORKED EXAMPLE

A market basket cost $40 in the base year and $50 this year. Find the CPI and interpret it.

1. Find the cost ratio: 50/40 = 5/4.
2. Multiply by 100: 5/4 × 100 = 125.
3. Compare 125 with the base-year index of 100.

Answer: CPI = 125. The basket costs 25% more than it did in the base year.

PRACTICE

6 problems

1 A fixed basket of goods cost $24 in a base year and $36 this year. Find the CPI and interpret it.

ANSWER ______________________

2 A country reports consumption of $72 billion, investment of $18 billion, government spending of $30 billion, exports of $15 billion, and imports of $9 billion. Find GDP.

ANSWER ______________________

3 A simplified price-weighted stock index uses three stock prices: $14, $20, and $26. Find the index.

ANSWER ______________________

4 In a town, 12 people are unemployed and 108 people are employed. Find the unemployment rate.

ANSWER ______________________

5 A country imports $63 billion in goods and exports $48 billion in goods. Find its trade deficit.

ANSWER ______________________

6 A CPI rises from 110 to 121. Find the percent increase and interpret it.

ANSWER ______________________

APPLY IT Show your work

1 A student writing for the school news reports that a country's consumption is $84 billion, investment is $22 billion, and government spending is $31 billion. The country exports $16 billion and imports $13 billion. What is its GDP? State how trade affects the total.

WORK SPACE

ANSWER ______________________

2 An after-school investment club uses a simplified price-weighted index. Three stocks now cost $18, $24, and $30, and the club's index was 20 last month. Find the current index and the percent change. Interpret the change.

WORK SPACE

ANSWER ______________________

CHALLENGE One step up

CHALLENGE

A CPI basket contains 2 notebooks and 3 pens. In the base year, notebooks cost $3 each and pens cost $2 each. This year, notebooks cost $6 each and pens still cost $2 each. Calculate the CPI, then explain in exactly one sentence why the result does not mean the basket costs $150.

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A fixed basket of goods cost $24 in a base year and $36 this year. Find the CPI and interpret it.	**CPI = 150. The basket costs 50% more than it did in the base year.**
2	A country reports consumption of $72 billion, investment of $18 billion, government spending of $30 billion, exports of $15 billion, and imports of $9 billion. Find GDP.	**GDP = $126 billion.**
3	A simplified price-weighted stock index uses three stock prices: $14, $20, and $26. Find the index.	**The stock index is 20.**
4	In a town, 12 people are unemployed and 108 people are employed. Find the unemployment rate.	**The unemployment rate is 10%.**
5	A country imports $63 billion in goods and exports $48 billion in goods. Find its trade deficit.	**The trade deficit is $15 billion.**
6	A CPI rises from 110 to 121. Find the percent increase and interpret it.	**The CPI increased 10%, so the prices measured by the basket rose 10%.**

PART 2 · APPLY IT

1. **GDP = $140 billion. Trade adds $3 billion because exports are $3 billion greater than imports.** Compute net exports first: 16 - 13 = 3. Then add 84 + 22 + 31 + 3 = 140.
2. **The current index is 24. It increased 20%, meaning the average price of the three stocks is 20% higher than last month.** Add the current prices and divide by three: (18 + 24 + 30) / 3 = 24. The increase is 4/20 = 20%.

CHALLENGE

CPI = 150; it means the basket costs 50% more than it did in the base year, not $150.

Accept equivalent calculations that use the stated formulas and correctly label CPI as an index number. For interpretations, accept equivalent wording about prices, average stock prices, or net exports as long as the direction and amount are correct.